

**To:** McComb, Martin[McComb.Martin@epa.gov]  
**Cc:** Jamie Miller[JMiller@TechLawInc.com]; Way, Steven[way.steven@epa.gov]; John.Lucotch@WestonSolutions.com[John.Lucotch@WestonSolutions.com]  
**From:** Christner, Jan  
**Sent:** Tue 9/1/2015 4:22:41 PM  
**Subject:** RE: GKM\_WQP\_DATA.xlsm

We are estimating what the concentrations might be at A72 (Animas River near Silverton), Bakers Bridge, and maybe another downstream location if we do or don't treat the Gold King discharge. Expanding that to other locations downstream is important but today's push is these.

We are starting with the current concentrations (done for A72 and BB through 8/27, it would be lovely to have for downstream locations if that's available, maybe just one more downstream location - one with a USGS gauging station like gauge station 09361500 Animas River at Durango, CO??).

From this we will calculate current loading.

Then we will use median monthly flows at the different stations to estimate what concentrations would be under different "dilution" scenarios. (Median flow conditions for winter months, flow conditions for higher and lower flow years - probably 25 and 75 percentiles over the period of record).

Having a map that shows the primary locations would be wonderful.

Gold King Mine (CC06)  
Cement Creek at Silverton (CC48)  
Animas River at Silverton (A68)  
Animas River Below Silverton (A72)  
Mineral Creek at Silverton (M34)  
Bakers Bridge

One downstream location such as USGS station 09361500 if we have current concentration data.

Something that would also be helpful GIS-wise is to show current and historic mean, median, and maximum flow, pH, and contaminant concentrations. That may need to wait for another day. I have those compiled for historic (2009-2014) at all locations except Mineral Creek. And may need to add pH's for a few locations (they are hard to pull from ESATs database).

It would be nice to have distances downstream for each of the sample locations from a reference point, possibly Gold King Mine or A72.

Thanks so much for the help!!

-----Original Message-----

From: McComb, Martin [mailto:McComb.Martin@epa.gov]  
Sent: Tuesday, September 01, 2015 10:06 AM  
To: Christner, Jan  
Cc: Jamie Miller; Way, Steven; Lucotch, John  
Subject: Re: GKM\_WQP\_DATA.xlsm

Awesome, we shall compile summary tables for you.

Steve asked me to jump in a bit. Can I get some idea of what you think your end product will be? I'd also like to make sure we are properly including a spatial component/GIS in what you are doing.

M

Sent from my iPhone

> On Sep 1, 2015, at 9:16 AM, Christner, Jan <Jan.Christner@WestonSolutions.com> wrote:  
>  
> Hi,  
>  
> Megan Burke and I are looking at the potential river impacts if we don't treat water at the mine. We are currently using the 2009-2014 ESAT/EPA data for the historic concentrations and USGS flows because they have been compiled and are ready for the mass balances that need to be completed today.  
>  
> This wonderful set of additional information will be very useful if someone can compile it in a meaningful way. What would be helpful is to have data tables (crosstabs) showing location, date, dissolved aluminum, cadmium, copper, iron, lead, manganese and zinc concentrations, flow, and pH at each location downstream of the site, with a focus on locations with the most information. The distance downstream from A72 (or whatever reference point is convenient) for each location would also be helpful.  
>  
> Let me know if you have questions or input. Thanks.  
>  
> Jan  
>  
> -----Original Message-----  
> From: McComb, Martin [mailto:McComb.Martin@epa.gov]  
> Sent: Tuesday, September 01, 2015 8:42 AM  
> To: Jamie Miller; Christner, Jan  
> Cc: Way, Steven; Lucotch, John  
> Subject: GKM\_WQP\_DATA.xlsm  
>  
> Jan and Jamie,  
>  
> Steve asked me to help Shepard the work he needs to model river impacts if we do/don't treat water at the mine.  
>  
> Here are the summary spreadsheets of historical data pulled from WQX. It contains state, tribal and local data as well as USGS data. There could be useful concentration and flow data for locations downstream in this dataset.  
>  
> This dataset was generated using a web service. We are currently working to hook this web service up to our operational viewer.  
>  
> M  
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